

Work Order ID 65403

January 17, 2011 7:35:15 AM

Page 1

Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 1/17/11

Start Qty: 1.00



Cust Item ID:

Required Date: 1/28/11

Req'd Qty: 1.00

Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D2580

Rev.D DEO-D1

0.00



DOCUMENT CONTROL

0.00



Memo

Photocopy D205-634 bluefile & type labels per PPP D205-634-041 CHG003

8/1/22/01

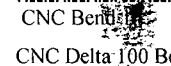
11-02-1

0.00



BENDING MACHINE - SKIDTUBES

0.00

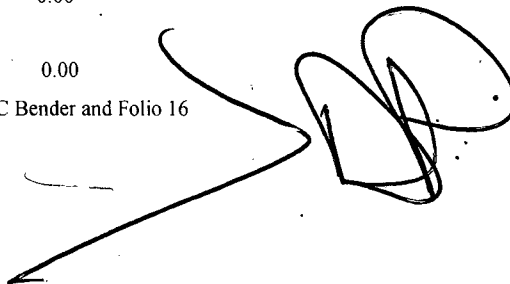


Memo

1-Bend as per program D2580.C on CNC Bender and Folio 16

2-Cut tubes as per Dwg. D2580

3- scribe batch# in aft end of tube



11-1-19

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

**Work Order ID 65403**

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Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 1/17/11 Start Qty: 1.00



Cust Item ID:

Required Date: 1/28/11 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



| Sequence ID/<br>Work Center ID | Operation<br>Description                      | Set Up/<br>Run Hours | Tool ID | Tool #   | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|---|----------------------|---------|----------|--------------|---------------|---------------|------------------|----------------|
| 120                            |   | 0.00                 |         |          |              |               |               |                  |                |
|                                |   |                      |         |          |              |               |               |                  |                |
| Skidtubes                      | Memo  | 0.00                 | 3B      | 11/01/20 |              |               |               |                  |                |
| Skidtubes                      | 1- Deburr ends and remove bending marks       |                      |         |          |              |               |               |                  |                |
|                                | 2- Prepare tube for swaging as per QSI 002    |                      |         |          |              |               |               |                  |                |
| 130                            | QC5- Inspect part completeness to step on W/O | 0.00                 |         |          |              |               |               |                  |                |
|                                |   |                      |         |          |              |               |               |                  |                |
| QC                             | Memo  | 0.00                 |         |          |              |               |               |                  |                |
| Quality Control                |   |                      |         |          |              |               |               |                  |                |

1 0 3E11/01/25

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
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| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

NOTE: Date & initial all entries

# Work Order ID 65403

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Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 1/17/11 Start Qty: 1.00



Cust Item ID:

Required Date: 1/28/11 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

140

0.00



Skidtubes

Skidtubes

Memo

0.00

1-Weld step D2576 as per Dwg. D2580 and QSI 004

A/R□□□ Aluminum Rod

*M110377 BE 11/01/25*

2-Grind welds on step as per Dwg D2580

*BE 11/01/25*

3-Insert D4202-1 spacer, swage as per QSI002 and trim/ grind flush per QSI002 and dwg. Hold x-bolt with DT9701 Use tube expander 1/2 x 17G to start expansion and finish with 1/2 x 18G to achieve dwg dimension.

4-Drill holes for wearplates using DT 8217 & DT8937 Open holes to 19/64", adjust stopper not to hit web. Debur

6-Drill pilot holes for aft cap using DT 8215 Open holes to 0.208". Debur

7-Drill pilot holes for Tow ring using DT8091, open to .640" and Debur

*BE 11/01/28*

150

QC10- Inspect visual per QSI004- ground welds

0.00



QC

Quality Control

Memo

0.00

*S 11/01/31*

*(X)*

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
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|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

**Work Order ID 65403**

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Page 4

Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 1/17/11 Start Qty: 1.00



Cust Item ID:

Required Date: 1/28/11 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

160

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

S 11/16/31

11-1-31

170

Pressure Wash per QSI005 4.3

0.00



HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch and leave fwd cap out of solution.

11/16/31

1

Q

180

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Memo

0.00

Powder Coating

START TIME: \_\_\_\_\_  
OVEN TEMPERATURE: \_\_\_\_\_  
FINISH TIME: \_\_\_\_\_A. - MF 10-01-31-  
cust. request

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



**Work Order ID 65403**

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Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 1/17/11 Start Qty: 1.00



Cust Item ID:

Required Date: 1/28/11 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

190

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

1 BR 11-01-32

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

**Work Order ID 65403**

January 17, 2011 7:35:26 AM



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Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 1/17/11 Start Qty: 1.00



Cust Item ID:

Required Date: 1/28/11 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

200

0.00



HandFinish

Hand Finishing

Memo

1-Install inserts &amp; wearplates &amp; Gaskets as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates

A/R ☐ ☐ ☐ Sikaflex-291 ☐ ☐ ☐ ☐

Sikaflex expire date: \_\_\_\_\_

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580

3-Inspect for foreign object per QSI 024

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step &amp; Aft Cap with Sikaflex. Clean excess adhesive

A/R ☐ ☐ ☐ Sikaflex-291 ☐ 11/11/14

Sikaflex expire date: 11/01

5-Wing Walk as per Dwg D2580 and QSI 005 4.4

Batch: \_\_\_\_\_

=&gt; JLL

11/01/31

1 9

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
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| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Work Order ID 65403

January 17, 2011 7:35:32 AM



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Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 1/17/11 Start Qty: 1.00



Cust Item ID:

Required Date: 1/28/11 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

210 *A* QC5- Inspect part completeness to step on W/O

0.00

*Sul 1/17/11*



QC

Memo

0.00

Quality Control

Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024

*210 B*

*pick kit 11/2/11*

220

0.00



Packaging

Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPPD205-634-041

Location: *73*

PPP Rev: *7*

*210 C QC4 → Sul 1/17/11*

*11/2/11*

*11/02/11*

*MF*

*11-02-01*

230

0.00



QC

QC21- Final Inspection - Work Order Release

Memo

0.00

Quality Control

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Picklist Print

January 17, 2011 7:35:04 AM

Page 1

Work Order ID: 65403

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 1/17/11

Required Date: 1/28/11

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30  
 KJ IPP Rev P 10.02.19  
 per PAR09-043 EC verified by:DD  
 IPP Rev. O 06.02.28 Added paperwork EC  
 IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM IPP Rev:Q  
 10.12.01 as per chg003 DD verf:EC

| Component Item ID/<br>Item Name | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty | Qty<br>Issued | Date<br>Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|

|         |  |              |    |  |  |     |      |          |    |    |  |  |  |
|---------|--|--------------|----|--|--|-----|------|----------|----|----|--|--|--|
| D4202-1 |  | Manufactured | No |  |  | 140 | Each | 106.0000 | 20 | 20 |  |  |  |
|---------|--|--------------|----|--|--|-----|------|----------|----|----|--|--|--|



Spacer

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
|----------|---------|----------|

|       |     |  |
|-------|-----|--|
| LG    | 106 |  |
| 64608 | 106 |  |

|         |  |              |    |  |  |     |      |        |   |   |  |  |  |
|---------|--|--------------|----|--|--|-----|------|--------|---|---|--|--|--|
| D2580-1 |  | Manufactured | No |  |  | 110 | Each | 7.0000 | 1 | 1 |  |  |  |
|---------|--|--------------|----|--|--|-----|------|--------|---|---|--|--|--|



205 Skidtube bent detail

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
|----------|---------|----------|

|       |   |  |
|-------|---|--|
| LG    | 4 |  |
| 63050 | 2 |  |
| 63051 | 2 |  |
| ST046 | 3 |  |
| 59856 | 1 |  |
| 64601 | 2 |  |

|         |  |              |    |  |  |     |      |         |   |   |  |  |  |
|---------|--|--------------|----|--|--|-----|------|---------|---|---|--|--|--|
| D2576-3 |  | Manufactured | No |  |  | 140 | Each | 63.0000 | 1 | 1 |  |  |  |
|---------|--|--------------|----|--|--|-----|------|---------|---|---|--|--|--|



Step (maching detail)

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
|----------|---------|----------|

|       |    |  |
|-------|----|--|
| LG    | 63 |  |
| 46661 | 15 |  |
| 52215 | 48 |  |



BE 1/01/28



20



① 1/11-1-19

BE 1/01/25

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



# Picklist Print

January 17, 2011 7:35:04 AM

Work Order ID: 65403

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 1/17/11

Required Date: 1/28/11

Start Qty: 1.00

Required Qty: 1.00

D2855

Manufactured No

200

Each

54.0000

1

1



Cap



11/01/31

Location

Loc Qty

Loc Code

FP6

3

56613

1

63634

2

ST026

51

50513

1

50770

28

51539

2

53791

20

AN3-5A

Purchased

No

200

Each

885.0000

2

2



Bolt



11/01/31

Location

Loc Qty

Loc Code

ST350

885

115016

385

115371

500

x2

AN960JD10L

NAS1149D03321

Purchased

No

200

Each

0.0000

2

2



Washer



11/01/31

ALS7-1032-130

Purchased

No

200

Each

1,628.000

50

50



Insert



11/01/31

Location

Loc Qty

Loc Code

FP

689

115079

689

ST282

939

113238

17

115502

500

115581

422

1116049

x50

January 17, 2011 7:35:04 AM

Shop Packet Print

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Picklist Print

January 17, 2011 7:35:05 AM

Work Order ID: 65403

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 1/17/11

Required Date: 1/28/11

Start Qty: 1.00

Required Qty: 1.00

AN3C4A

Purchased

No

200

Each

1,233.000

50

50



BOLT



11/2/11 SP

## Location

## Loc Qty

## Loc Code

ST350

1233

115300

25

115936

8

116075

1000

116590

200

50

AN960C10L

NAS1149C0332

Purchased

No

200

Each

25.0000

50

50



washer



11/16/25 11/2/11 SP

## Location

## Loc Qty

## Loc Code

ST245

25

107534

25

D3566-13

Manufactured

No

200

Each

26.0000

1

1



Gasket



11/2/11 SP

## Location

## Loc Qty

## Loc Code

FP012

6

61996

6

FP014

20

64070

20

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Picklist Print

Page 4

January 17, 2011 7:35:05 AM

Work Order ID: 65403

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 1/17/11

Required Date: 1/28/11

Start Qty: 1.00

Required Qty: 1.00

D3566-5



Gasket

Manufactured No

200

Each

13.0000



1/12/11 sf

## Location

## Loc Qty

## Loc Code

FP

12

64789

12

FP015

1

63574

1

D3566-1



Gasket

Manufactured No

200

Each

6.0000



1/14/11 B65988 sf

## Location

## Loc Qty

## Loc Code

FP015

6

57715

1

63573

5

D3564-11



Wearshoe

Manufactured No

200

Each

8.0000



1/12/11 sf

## Location

## Loc Qty

## Loc Code

FP019

8

62236

8

D3564-13



Wearshoe

Manufactured No

200

Each

16.0000



1/14/11 sf

## Location

## Loc Qty

## Loc Code

FP17

16

59660

1

61828

3

62229

12

January 17, 2011 7:35:05 AM

Shop Packet Print

Page 4

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



# Picklist Print

Page 6

January 17, 2011 7:35:09 AM

Work Order ID: 65403



Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 1/17/11

Required Date: 1/28/11

Start Qty: 1.00

Required Qty: 1.00

D2594-1

Manufactured No

200

Each

235.0000

16

16



Plug, 205 Skidtube



*Handwritten:* 1/16/11

Location

Loc Qty

Loc Code

FP

183

42807

112

55002

71

FP14

52

58434

15

62893

37

*Handwritten:* X16

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                    |                          |  |
|------|------|--------------------|----|------|-----|------------------------------------|--------------------------|--|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng/<br>Prod Mgr | Approval<br>QC Inspector |  |
|      |      |                    |    |      |     |                                    |                          |  |
|      |      |                    |    |      |     |                                    |                          |  |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

**DART**

|                  |                |  |                        |
|------------------|----------------|--|------------------------|
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| CHECKED<br>#     | APPROVED<br>#  | DRAWING NO.<br>D2580                                       | REV. D<br>SHEET 1 OF 3 |
| DATE<br>07.02.27 |                | TITLE<br>205 SKIDTUBE ASSEMBLY                             | SCALE<br>NTS           |
| A                | 96.09.16       | NEW ISSUE  |                        |
| B                | 96.12.02       | AS MANUFACTURED  |                        |
| C                | 98.08.26       | REDRAWN, INCLUDED DEO 9094/9097                            |                        |
| D                | 07.02.27       | CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183 |                        |

**RELEASED**  
07.06.28 #**DEO ATTACHED**

| QTY<br>-041 | QTY<br>-045 | Part Number   | Description       |
|-------------|-------------|---|-------------------|
| X           |             | D2580-041   | SKIDTUBE ASSEMBLY |
|             | X           | D2580-045   | SKIDTUBE ASSEMBLY |
|             |             |   |                   |
| 1           | 1           | D2500-1-190   | EXTRUSION         |
| 1           | 1           | D2576-3   | STEP              |
| 20          | 24          | D2579   | CROSS BOLT SPACER |
| 16          | 16          | D2594-1   | PLUG              |
| 16          | 16          | D2594-3   | O-RING            |
| 1           | 1           | D2596   | 205 WEB           |
| 1           | 1           | D2855   | AFT CAP           |
| 1           | 1           | D3564-5   | WEARSHOE          |
| 1           | 1           | D3564-9   | WEARSHOE          |
| 1           | 1           | D3564-11  | WEARSHOE          |
| 1           | 1           | D3564-13  | WEARSHOE          |
| 2           | 2           | D3566-1   | GASKET            |
| 1           | 1           | D3566-5   | GASKET            |
| 1           | 1           | D3566-13  | GASKET            |
|             |             |   |                   |
| 50          | 50          | ALS7-1032-130<br>or AKS7-1032-130<br>or AKS4-1032-130<br>or AELS-1032-130 | INSERT            |
| 50          | 50          | AN3C4A  | BOLT              |
| 2           | 2           | AN3-5A  | BOLT              |
| 50          | 50          | AN960C10L   | WASHER            |
| 2           | 2           | AN960JD10L  | WASHER            |

**GENERAL NOTES:**

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:  
SEE NOTES ON  
PAGE 2 FOR D2580-041 AND  
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

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Diagram illustrating the grinding locations and features for the D2576-3 step. The diagram shows a cross-section of the step with the following labels:

- GRIND FLUSH (4 PLACES)
- GRIND FLUSH
- D2576-3 STEP
- LOCATION RIDGE ON UNDERSIDE OF D2576
- $\frac{1}{4}$

RELEASED  
07-06-28

DEO ATTACHED

[illegible]

D2579 SPACER

D2596 WEB (REF)

AL57-1032-130 (REF)  
(TYP 50 PLACES)

PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 x 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 x 1.00 DEEP

i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

37.50  
DISTANCE TO AFT END  
OF D2596 WEB  
3 7  
REFER TO DETAIL A  
1.750 1.750  
Ø0.508 (TYP.)  
(40 PLACES)  
REFER TO DETAIL A  
8.750  
17.375  
26.000  
34.188  
57.313 (REF)  
7 EQUAL SPACES  
8.188 PITCH  
38.0 91.500  
190.0  
(D2500-1)

WELD AS PER DETAIL B

BLACK ANTI-SKID TOP OF STEP TO 0.5 ABOVE BOTTOM EDGE

BLACK ANTI-SKID TO 0.5 ABOVE LOCATION RIDGE

0.5 1.5 1.5 0 1.5 1.5 1.5

8

P P P P P P P P


REFER TO DETAIL C

D3566-1 D3566-5 D3566-1 D3566-13

D3564-11 D3564-5 D3564-9 D3564-13

AN3C4A BOLT (1)  
AN960C10L WASHER (1)  
(50 PLACES)

DESIGN J DRAWN BY

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| DATE<br>07.02.27  |  | TITLE<br>205 SKIDTUBE ASSEMBLY |                | SCALE<br>1:24   |                        |

5/10/08

Diagram of a circular cross-section of a pipe showing a grid of reinforcement bars. The grid consists of 3 horizontal bars and 3 vertical bars. The horizontal spacing between vertical bars is 3.500. The vertical spacing between horizontal bars is 1.750. The bars are labeled with numbers 1 through 6.

RELEASED  
07-06-28

DEO ATTACHED

Technical drawing of a circular component with a central hole and a rectangular slot. The drawing includes the following labels and dimensions:

- DRILL PRIOR TO D2855 CAP INSTALLATION (2 PLACES)**: Points to two small circles on the top edge of the component.
- Ø0.208**: Dimension for the diameter of the two small circles.
- SEAL WITH SIKAFLEX-241/-291**: Points to the rectangular slot.
- AN3-5A BOLT (1)**: Points to a bolt passing through the central hole.
- AN960JD10L WASHER (1)**: Points to a washer under the bolt head.
- (2 PLACES)**: Points to the two small circles on the top edge.
- D2855 CAP**: Points to the central hole.
- SEE NOTE ii)**: Points to the rectangular slot.
- 0.40**: Dimension for the width of the rectangular slot.

D2579 SPACER

D2596 WEB (REF)

ALS7-1032-130 (REF)  
(TYP 50 PLACES)

AFTER PERFORM

1. CHA
2. INS
3. WEI
4. C'B

AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR #0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO  $\phi 0.437$  X 1.00 DEEP

i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

ii) IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

37.50  
DISTANCE TO AFT END  
OF D2596 WEB  
3 7  
REFER TO DETAIL A  
1.750 1.750  
8.750 17.375 26.000 34.188 57.313 (REF)  
7 EQUAL SPACES  
8.188 PITCH  
91.500 190.0  
D2500-1  
Ø0.508 (TYP.)  
(40 PLACES)  
REFER TO DETAIL E

Technical drawing of a propeller shaft. The shaft is shown in profile, with dimensions and callouts indicating its geometry. Key dimensions include: a total length of 51.340; a distance of 39.580 from the right end to the center of the 8 holes; a distance of 5.915 from the center of the 8 holes to the right end; a distance of 5.338 (REF) from the left end to the center of the 8 holes; a distance of 3.630 (REF) from the center of the 8 holes to the right end; a distance of 5.985 from the left end to the center of the 8 holes; a distance of 1.4 from the left end to the center of the 8 holes; a distance of 1.0 from the center of the 8 holes to the right end; a distance of 1.0 from the center of the 8 holes to the right end; a distance of 32.0 ± 1.0 from the center of the 8 holes to the right end. The shaft has a diameter of 0.640 at the right end and 0.508 (8 PLACES) in the middle. The shaft is labeled with a triangle containing the number 4. The drawing is titled (MAKE FROM D2580-1 DRILLING DETAIL).

WELD AS PER DETAIL F

BLACK ANTI-SKID TO 0.5 ABOVE LOCATION RIDGE

BLACK ANTI-SKID TOP OF STEP TO 0.5 ABOVE BOTTOM EDGE

REFER TO DETAIL G

0.5

1.5

1.5

H

NO C'BORE NO PLUG

NO C'BORE NO PLUG

P

P

P

P

P

P

P

NO C'BORE NO PLUG

D3566-1

D3566-5

D3566-1

D3566-13

D3564-11

D3564-5

D3564-9

D3564-13

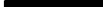
AN3C4A BOLT (1)

AN960C10L WASHER (1)

(50 PLACES)

DESIGN

DRAWN BY

|   |  |                                |                |   |                        |
|---|--|--------------------------------|----------------|---|------------------------|
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| DATE<br>07.02.27  |  | TITLE<br>205 SKIDTUBE ASSEMBLY |                |   |                        |
|   |  | SCALE<br>1:24                  |                |   |                        |

|                      |                                |                         |   |  |                         |                           |              |
|----------------------|--------------------------------|-------------------------|---|--|-------------------------|---------------------------|--------------|
| DRAWING NO.<br>D2580 | TITLE<br>205 SKIDTUBE ASSEMBLY | REV. D                  | DART AEROSPACE LTD<br>ENGINEERING ORDER |  | D.E.O. NO.<br>D2580-D-1 | SHEET NO.<br>SHEET 1 OF 1 | SCALE<br>NTS |
| DRAWN<br><i>UP</i>   | CHECKED<br><i>L</i>            | MFG. APPR.<br><i>R</i>  | APPROVED<br><i>MP</i>                   |  | DE APPR.<br><i>H</i>    |                           |              |
| DATE<br>10.09.22     | DATE<br><i>10.11.04</i>        | DATE<br><i>10.11.04</i> | DATE<br><i>10/11/04</i>                 |  | DATE<br><i>10.11.04</i> |                           |              |

**PURPOSE:**

CHANGE ALL WELDED CROSSBOLT SPACERS TO SWAGED SPACERS

**CHANGE:**

PARTS LIST IS AMENDED AS FOLLOWS:

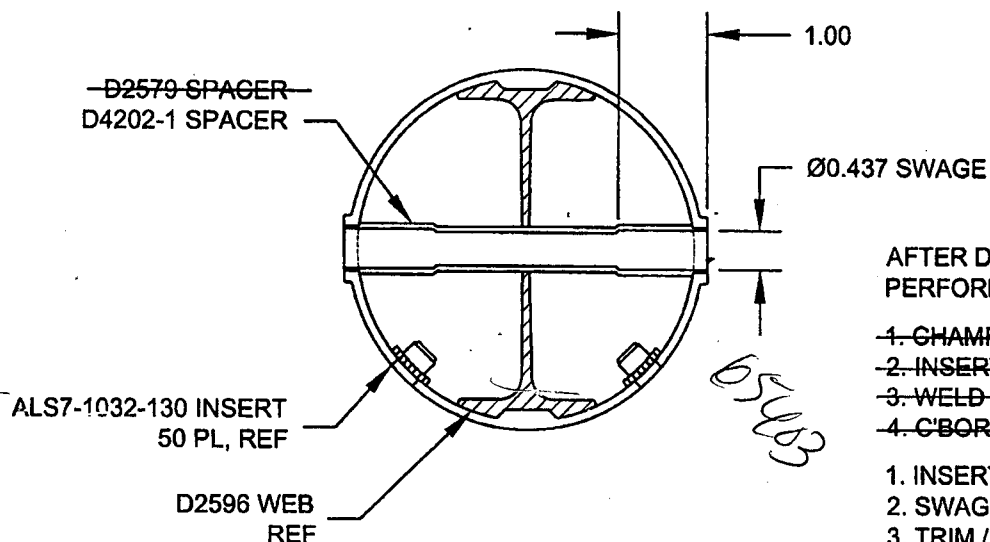
WAS

| QTY  | QTY  | PART NUMBER | DESCRIPTION       |
|------|------|-------------|-------------------|
| -041 | -045 |             |                   |
| 20   | 24   | D2579       | CROSS BOLT SPACER |

IS

|    |    |         |        |
|----|----|---------|--------|
| 20 | 24 | D4202-1 | SPACER |
|----|----|---------|--------|

SECTION D-D & SECTION H-H ARE AMENDED AS FOLLOWS:



**SECTION D-D**  
NOT TO SCALE

**SECTION H-H**  
NOT TO SCALE

AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C-BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

1. INSERT D4202-1 SPACER, 20 PL (-041) OR 24 PL (-045)
2. SWAGE TO Ø0.437 X 1.00 DEEP PER QSI 002
3. TRIM / GRIND FLUSH PER QSI 002

**RELEASED**  
2010-11-18  
*MP*

